C.A.A. Inspectors and Pilots in Round-Table Air Safety Discussion

THE AIR LINE PILOT

Vol. 9—No. 8 | Published by The Air Line Pilots Association, International, 3145 W. 63rd St., Chicago, Ill. | September 1940

Western Air Express Employment Agreement Nears Completion

LATE NEWS IN BRIEF

First

Patterned in the glorious tradition set in the last war by the Lafayette Escadrille is the all-American piloted "Eagle Squadron" of 34 volunteers now being trained in England. Britain's capable Minister of Air, Sir Archibald Sinclair, recently announced, "This squadron soon will take its place in the fighting line defending England against German attacks. These pilots came spontaneously." Thirty-five year old, ex15th Fighting Squadron, U. S. Navy Air Corps member, William E. G. Taylor, has been placed in active command of this first entirely American unit.

Storage

Subterranean space, sufficient to store all the gasoline this country would need in a thousand years, exists today in Kentucky's numerous caverns. U. S. defense experts, cognizant of the fact that these caves can easily be made bomb-proof, are considering the storing of war reserve gasoline in these natural warehouses. World-famous Mammoth Cave, because of its major attraction to tourists, is excluded from the plans.

Outpost

Guarding the northwest approach to continental United States, is U. S. Army's new $12,000,000 air outpost under construction at Anchorage, Alaska, some 1500 miles north of Seattle, Wash. To this strategical, north-country base has recently been assigned one squadron of medium bombers and one squadron of pursuit planes, giving this important flank key a tactical strength of 3600 troops.

Appointed

Appointment of Merrill C. Meigs, publisher of the Chicago Herald-American, as head of the

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KC Safety Meet Successful

In an effort to further enhance the splendid safety record that the country's air lines now enjoy, the supervisory personnel of the Air Carrier Inspection Section of the Civil Aeronautics Administration met with representatives of the air carriers and pilots on October 16 and 17 in Kansas City, Mo., for a round-table discussion. All concerned have learned from experience that, where air safety is involved, foresight is better than hindsight and this was the general theme of the discussions at the Kansas City Air Safety Conference.

Conferees Get Down to Bed Rock in Discussions

The CAA inspection personnel met with the pilots on the 16th and with the carriers on the 17th. The discussions were strictly of an

(Continued on Page 4, Col. 1)

$40,000,000 FOR AIRPORT PROGRAM

Congress approved an appropriation of $40,000,000 on October 4, 1940 for an airport improvement and construction program for the United States and its possessions. This step is reported to be the beginning of a huge, long-range program embodying 4,000 potential airport projects.

The $40,000,000 appropriation resulted from a compromise decision reached by the conference committee of Senate and House members.

House Passed Original $80,000,000 Proposal

Following approval of the Budget Bureau for a direct appropriation of $30,000,000 plus a contract authorization of $50,000,000, the House, on September 23, passed the full amount. The $80,000,000 bill was lost, however, when the Senate Appropriations Committee voted to strike it out of the First Supplemental Civil Functions Bill where it had been shifted from a national defense appropriation measure.

—United Air Lines Photo

21,500 HRS. ***"Smile and the world smiles with you" is the creed of UAL Pilot E. Hamilton Lee. You would smile, too, if you were the world's senior air mail pilot and the first to reach a grand total of 21,500 hours in the air approximating 3,000,000 air line miles or 120 times around the orb, commonly referred to as that troubled old world of ours. Apparently "Ham", as he is familiarly referred to by his friends, believes in smoking cigars in proportion to his record. Seriously, veteran airmen regard "Ham" Lee's record of hours flown and miles covered as the world's record of records in the field of professional flying.***

Select 13 Sites For Air Bases

Sites were selected recently by the War Department for thirteen new air bases. The locations and units to be established at the fields are as follows:

Municipal Airport, Bangor, Me.— Forty-third Bombardment Group (heavy) and Eighth Air Base Group.

Manchester, N. H. — Forty-fifth Bombardment Group (light)

(Continued on Page 3, Col. 2)

U. S., CANADA MAP AIR PLANS

Representatives of the Civil Aeronautics Board have recently returned from Ottawa, Canada, after having discussed with representatives of the Canadian Department of Transport the inauguration of new international air services between the United States and Canada. The conference was for the purpose of giving effect to Article III of the Air Transport Arrangement entered into between the governments of the two countries on August 18, 1939, providing for the operation of scheduled air services across the border. The conferees agreed to recommend to their respective governmental agencies a program for the division of routes and services between carriers of the two nations on a reciprocal basis.

Carriers Need Dual Certificates

In order for a United States air carrier to inaugurate service between the United States and Canada it is not only necessary to obtain a certificate of public convenience and necessity from the Civil Aeronautics Board but also to obtain a license from the Board of Transport Commissioners of Canada authorizing flights into Canadian territory. Similarly, Canadian carriers seeking to operate into the United States, must have formal permission from both of the governments concerned. In issuing a certificate of public convenience and necessity to a United States carrier for a route running into Canada, the attitude of the Canadian Government toward the issuance of a permit for the proposed service must be given considera-

(Continued on Page 3, Col. 4)

Contract Program In Final Stages

On October 10, 11, and 12, the first employment contract conferences were held with the officials of Western Air Express. This was the first conference of this kind to be held on the west coast. All conferees participating took a friendly and constructive attitude and much progress was made. It is expected that one more short meeting will result in a completed agreement. This will bring the total signed agreements up to an even dozen.

Third Conference With Inland Scheduled for First Part of November

Another effort is being made to complete the Northwest agreement in which only one point still remains in controversy. Two conferences have been held with Inland and another is scheduled for the first part of November. Meetings are being sought with Eastern and with National Airlines but no definite dates as yet have been set.

When contracts on the five remaining air lines, with whom we are now negotiating, have been completed, the Association's contract making program with domestic air lines will be finished.

ON SWIFTNESS DEPEND VICTORIES

Air transport has been helped to eminence with the aid of public funds, but in that it is no different from preceding types of transportation. The name of Lincoln is scrawled across the bottom of a Bill which sent the Union Pacific westward as a defense measure.

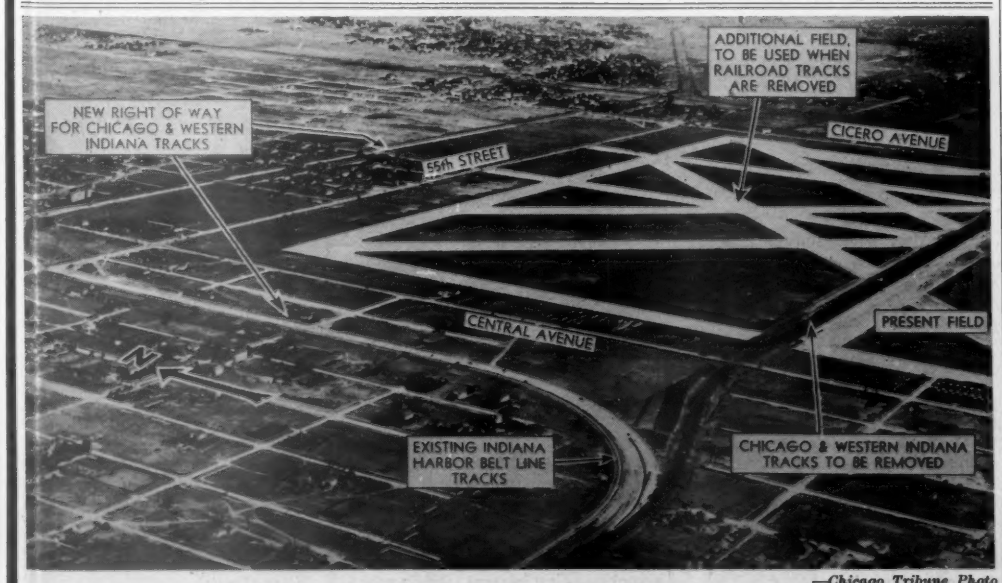
Like the highways or the waterways, our commercial flying has been shaped to fit into our National Defense. Victories nowadays go even more to the swift than to the brave. Remember Norway? What could be swifter than troop movements by air? This could be the means of concentrating needed manpower almost overnight at any threatened point in our huge land.

Troop mobilization by airplanes is here. It has been done. Contrast it with the brave but futile army which went out in taxicabs to save Paris. And in this country we must cover ten miles of distance to the Frenchman's one!

We are all aware of the importance of highways in military operations. In this era when conflict has taken wings, what could be more important than aerial highways?

These we have established — thousands of miles of them. They form a network over America so complex that scarcely a town is more than a few hours by automobile from some scheduled air line route. But we have done something much more important than merely establishing these airways. We have worked out and put in operation a system of control which makes them equally as safe, or safer, and almost as definite as a concrete highway.

Excerpt from a recent speech by Robert H. Hinckley, Assistant Secretary of Commerce.


ADDITIONAL FIELD, TO BE USED WHEN RAILROAD TRACKS ARE REMOVED
NEW RIGHT OF WAY FOR CHICAGO & WESTERN INDIANA TRACKS
55th STREET
CICERO AVENUE
CENTRAL AVENUE
PRESENT FIELD
N
EXISTING INDIANA HARBOR BELT LINE TRACKS
CHICAGO & WESTERN INDIANA TRACKS TO BE REMOVED

—Chicago Tribune Photo

PROGRESS **Who said that it would never happen here? We refer to the removal of the Chicago & Western Indiana Railroad tracks which, for such a long period, bisected the Chicago Municipal Airport. The removal of this right of way proved to be one of the knottiest problems that ever thwarted the successful completion of an airport project. Pictured here is evidence that the work has actually begun and is now in progress. Its completion is expected by the first of 1941. Shortly, we will all be able to heave a sigh when approaching and taking off from this port. The dangerous game of dodging freight trains and the railroad right of way will have ended.**

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"Public Safety calls for pilots of high character and great skill. The occupation is a hazardous one. Therefore, the law should provide for a method to fix maximum flying hours, minimum pay and a system for retirement or annuity benefits."
—President Roosevelt.

THE-1940-CONVENTION

A convention is the act of convening a body of representing delegates, periodically, for a common purpose. At a convention of the air line pilots, that common purpose is to first, report what has been done for the good of the entire membership during the preceding year and, second, to plan and discuss what should be done to enhance the best interest of the membership during the subsequent year.

The 1940 convention, which will convene on November 29, will be the sixth annual and biennial meeting of the Air Line Pilots Association. Preceding conventions have been held during the latter parts of the years 1932, 1934, 1936, 1938, and 1939.

The growth of the pilots' association has kept pace with the growth of the industry. Its organization was begun in 1930. In 1931, it was chartered by the American Federation of Labor. The charter was issued to thirteen pilot leaders, four of whom are now deceased, representing 203 members. The following quoted record of the number of delegates attending past conventions and the total number of members they represented reflects the growth of the Air Line Pilots Association to the present time:

1932 convention 19 delegates representing 344 members
1934 convention 20 delegates representing 484 members
1936 convention 39 delegates representing 637 members
1938 convention 52 delegates representing 1009 members
1939 convention 69 delegates representing 1080 members

There will be seventy delegates at the 1940 meeting representing approximately 1400 line pilots. Each convention has proven a definite milestone in the establishment of fair and reasonable working conditions for the air line piloting profession and such conditions of employment thus established, have added immeasurably to the safety of the air traveler.

The "baby international," as the Air Line Pilots Association is good-naturedly referred to in labor circles because of its youth and relative size, has managed, during less than a decade, to surround its membership with more minimum wage, maximum hour, collective bargaining, and working conditions protection than any other organization in the world. It sat at council tables to shape the destinies of a great new industry, the growth of which is a twentieth century phenomenon, and its development possibilities are as limitless as the air spaces in which it operates.

The pilots have built their organization on a foundation of unimpeachable sincerity of purpose, honesty of endeavor, and undaunted courage. It has often been said that the pilots were too highly individualistic to be able to make a go of organized effort. They have disproven this by proving themselves capable, through organized effort, to transform prevalent inequity into something savory of equity.

When the convening gavel of the 1940 convention falls, it will echo the deeds of our honored dead who have given their lives to the development of our country's vast air transportation network, the greatest in the world, and will sound a call for new "highs" in achievement of the couriers of the skyways—THE AIR LINE PILOTS.

—David L. Behncke

WRITIN'? DOGGONE THAT'S WHAT I'M DOIN'

By PILOT F. P. KENDALL, BOSTON-MAINE

I got your letter about shootin' in some news—
Or any old material an editor might use—
To sorta pad the columns of his worthy publication.
That sure is askin' for it, Dave.
It smacks o' desperation.
Now, never be it said o' me, I wouldn't heave a rope
To some poor strugglin' editor,
Fresh out o' dope and hope.
Fact is, I've been quite well aware, since bein' made a scribe,
There'd come a day you'd shoot me full
Of well-aimed diatribe.
You've probably caught on by now, I'm just a fillin' space—
That's what you said, now ain't it, Dave.
"Just write, in any case?"
Doggone, that's what I'm doin', Dave,
A writin' to beat hell
So you can get your paper out and ring another bell.

The news round here is full o' cheer
Now that the minds are met—
The "put-an'-take" is over, and the contract has been let—
And everybody's happy, morale's comin' out our ears;
And all hands look to see the boom
Go on for fifty years.
Our roster has grown lot bigger than it was a short while back,
And every time you turn around some new bird makes a crack.
It all adds up to health and wealth, and it doesn't do any harm
If every day on the air line ain't
Like Sunday on the farm.

Just one more thing and then I'll quit and pile into bed,
The rosy-fingered dawn's most here and, Dave, I'm nearly dead.
(I know that's how you'll wish I was when this arrives in Chi,
But when you can't do nothin' else, at least you gotta try.)
Now, Dave, what I set out to say an' almost got bogged down,
Was, on behalf of all the boys, we're glad you got to town.
And hope things may let up some day so you'll repeat the visit—
Now that ain't impossible—we hope it ain't, or is it?
Well, anyway, until you do get down our way again,
Herewith real thanks and best regards
From all our twenty men.

Today It's More Than A Score

By FRED SMITH
Council No. 28, CCA
New York City

We have acquired, since our last appearance in print, several new captains including Barnitt, Hawley, and Uttenweiler. New first officers are Ralston, Johnson, Nemmers, Ringer, Kugel (since recalled to active duty with the Army and retaining seniority), Coster, Cordova, and Gitt. Last year at this time we had a pilot roster of only a dozen. Today, we show more than a score.

We have acquired two more stations, Schenectady and Niagara Falls. Our DC-2's have been assigned to "reserve" status, and we are operating extra sections in numbers without regard for the "seasons."

Canadian Colonial Pilots Get Channel Traffic

We have installed our own communication system over the line, and won't hereafter be bothering the TWA lads during peak traffic hours. Our new radio is working excellently, and has only one drawback. Our frequency is gathering up some of the marine channel conversations and it's not unusual for our contacts to be broken up by a call from one of New York harbor's tugboat captains asking Charlie Schmalz of the "EFFIE MORAN" how many barges he's towing. All in all, however, it's pretty peaceful on our channel, and these salty interruptions are welcomed during the quiet evenings.

A new Howard survey ship has been acquired by the line, and sometimes it breezes by one of the liners at altitude. Also, it's a honey to fly as it has wonderful performance.

CLAIMS IT'S UNFAIR, UNKIND, UNCOUTH

By R. B. HOYT
Council No. 31, AA
Burbank, Calif.

In case anyone has missed the monthly blurb from Burbank it is due to the fact that ye scribe has been conducting a one-man, reverse English Boston Tea Party. I claim it is unfair, unkind, uncouth, and un-American to elect anyone to any office unless he is there to defend himself. However, my arguments were thrown out as irrelevant, immaterial, and having no bearing on the case. So, here it is. (Whoever heard of a copilot's winning an argument with one captain, much less a dozen. Should have retired gracefully in the first place.)

Master in Invective Attacks Full-Grown Eucalyptus With Putter

Our usual fall crop of future copilots has been pretty low this year. Pop Warner is the sole producer with a bouncing baby girl. In the marriages and births column it should also be recorded that Dick Fagin, our 140 pounds of dynamic tension, has recently taken unto himself a bride. We golf pigeons were hoping that the added responsibility might soften up his golf game a little, but so far the change has been imperceptible. Must be getting better food or something. Incidentally, the ranks of the golfers have been pretty badly shattered since Bill Cheney, Frenchy Williams, Bill Swain, and Toby (over-the-fence-and-far-away) Hunt, departed for the East. A few of the faithful remain, including that master in invective, Jim Ingram. Jim's game is somewhat erratic these days due to the emergency use of his wife's putter. Seems that his own putter turned up a casualty when brutally assaulted by a eucalyptus tree.

(Continued on Page 7, Col. 2)

"To fly West, my friend, is a flight we all must take for a final check."

In Constant Memoriam

Active

Accidental
Adams, John B.—U. A. L.
Anderson, Lloyd,—U. A. L.
Andert, Paul A.—U. A. L.
Barron, John M., Jr.—A. A.
Bickford, L. A.—Panagra
Bigelow, Ed.—U. A. L.
Blom, Edwin W.—U. A. L.
Bogen, W. L.—W. A. E.
Bohnet, Frederick L.—T. W. A.
Bolton, Harvey F.—T. W. A.
Bontrager, C. M.—R. A. L.
Borchers, Adrian—P. A. A.
Bowen, J. E.—T. W. A.
Bowen, Lewis L.—B. A.
Brandon, James L.—U. A. L,
Briggs, Francis W.—A. A.
Broughton, D. E.—U. A. L.
Brunk, Paul S.—P. A. A.
Bucher, Charles L.—P. A. A.
Chamberlain, Cassius B.—N. W.
Cohn, Hanley G.—W. A. S.
Cope, Alonzo—Marine Airways
Cox, Floyd—Ludington
Davis, Alfred W.—U. A. L.
Davis, Douglas—E. A. L.
DeCesare, Frank—Panagra
De Cesaro, Joseph G.—U. A. L.
Dietz, Stuart G.—E. A. L.
Dixon, Andrew, Jr.—D. A. L.
Dunn, Stephen—Panagra
Fields, Glenn T.—A. A.
Fuller, Ray E.—A. A.
George, Hal—T. W. A.
Grover, R. Boyd—U. A. L.
Haid, Arthur A.—N. W.
Hale, S. H.—E. A. L.
Hallgren, W. A.—A. A.
Hill, George W.—A. A.
Holbrook, Clyde M.—A. A.
Holsenbeck, W. M.—P. A. A.
Jamieson, W. L.—E. A. L.
Jones, Lloyd E.—U. A. L.
Kelsey, Harold J.—A. A.
Kincanon, Ted N.—A. A.
King, George B.—P. A. A.
Komdat, Albert C.—E. A. L.
Lewis, Harry C.—T. W. A.
Livermore, Joe—N. W.
Lucas, Al—W. A. S.
Lucas, Verne—Ludington
Lynn, John B.—C. & S. A. L.
McMickle, Harold—Panagra
Malick, Forrest E.—U. A. L.
Mamer, Nick B.—N. W.
Marshall, Gerald V.—A. A.
Merrifield, Austin S.—U. A. L.
Montee, Ralph—T. W. A.
Montijo, John G.—V. A. T.
Morgan, Howard R.—T. W. A.
Mossman, Russell C.—C.&S.A.L.
Neff, Harold—U. A. L.
Noe, Earl J.—T. W. A.
Norby, Raymond B.—N. W.
Odell, M. T.—A. A.
Owens, Clifford P.—W. A. E.
Paschal, A.—P. A. A.
Person, Addison G.—P. A. A.
Potter, Norman W.—U. A. L.
Pursley, C. H.—Panagra
Radoll, R. W.—U. A. L.
Riggs, Russell S.—A. A.
Robbins, Wm. J. B.—A. A.
Rose, John A.—K. L. M.
Rousch, Chas. W.—N. W.
Rust, F. H.—A. A.
Salisbury, Hervey M.—T. W. A.
Sandblom, J. V.—C. P.
Sauceda, J. M.—P. A. A.
Scroggins, Lowell V.—P. C. A.
Sharpnack, J. W.—U. A. L.
Sheets, Don W.—Panagra
Sherwood, George C.—W. A. E.
Supple, Robert E.—Panagra
Tarrant, Harold R.—U. A. L.
Terletzky, Leo—P. A. A.
Thompson, A. R.—U. A. L.
Underwood, Sanford L.—A. A.
Vance, Claire K.—U. A. L.
Waldron, Joe—A. A.
Walker, M. A.—P. A. A.
Wallace, Clyde W.—T. W. A.
Weatherdon, Edwin—A. A.
West, F. W.—N. W.
Wieselmayer, Otto—P. A. A.
Williamson, P. B.—E. A. L.
Worthen, John A.—W. W.
Zeier, Carl F.—C. & S. A. L.

Natural
Blomgren, Lloyd I.—A. A.
Cochrane, Robert M.—U. A. L.
Fife, John A.—C. A.
Hohag, R. J.—N. W.
McConaughey, Ira M.—A. A.
Phelps, Henry T.—P. A. A.
Swanson, Axel—A. A.

Inactive

Anderline, Frank W.
Ashford, Ted
Barr, Julius
Burford, Dean W.
Caldwell, G. Q.
Drayton, Chas. M.
Hulsman, Herbert W.
Noyes, Dewey L.
Ormsbee, F.
Riddle, Glenn L.
Shelton, Boyd M.
Stark, Howard C.
Veblen, E. H.
Walbridge, Donald C.
Wheaton, Harold H.
Whittemore, Fred W.
Wolf, John F.
Willey, Sidney L.

Waiting List

Brock, Wm S.
Kiser, Daniel

Unemployed

Darby, James E.
Downs, Lloyd
Hays, George L.
Keadle, Floyd E.
Rhiner, L. H.

Honorary

Rogers, Will

Texas Sunshine & Stockyard Ozone

By C. M. HEFNER
Council No. 22, AA
New York, N. Y.

Today, I sit with my typewriter on one knee, a suitcase on the other, and my hat in my hand. . . . The family is outside in the car yelling, "Let's go!" As soon as this feeble effort is over we are cranking the old flivver and heading south. By the time we read copy on this, we expect to be basking in that Texas sunshine and inhaling that gentle odor which wafts lazily to you from the Fort Worth stockyards.

It's a Bit of "Over-Selling," Don't You Reckon?

I have thought all along that it would be a good idea to move back to Texas when the vacancies came. Now that the opportunity has come, I see that I was not particularly original with the idea as half of New York wants to move down there. In fact those of us who want to move back down there have talked about it so much that people who have never lived down there before are becoming interested in it. Possibly there has been a little "over-selling" on the idea. Others who are going down at this time are Apitz, Wonsey, McCabe, Hamer, Ray Jones of Boston, Hooton, and Hudson of Memphis. George McCabe is forsaking his job as Chief Pilot to return to the line.

Who Was the Other One?

With every movement of senior men away from New York there is an influx of junior men who walk eagerly into a Captain's vacancy. All of the new men mentioned in the last newsletter now have regular runs. Bruce and Fleming have just been checked out and are relieving on the NY-Cincinnati local. The new ones just being checked out at this time are Toby Hunt, Osborne, Richards, and . . . who was that other one? . . . You know, the one with the funny face? . . . Oh, yes, Johnny Adams.

"I'll Straighten 'Em Out," Sez Johnny

You remember the success story of Gus Konz last month? Well, here is one even better. When Johnny Adams completes his check-out, he will fly on AM 18, Boston-New York. Now, it so happens that Johnny was born and raised at Hartford, one of the regular stops on most of the runs out of Boston. During the years when Johnny had his own airplanes and flew them out of Hartford, he was continually at odds with the Connecticut state aviation officials who were very old-fashioned and did not appreciate the new way Johnny was handling his airplanes. So, Johnny sez, "I'll straighten 'em out." But the hard-headed guys still wouldn't understand and tried to lift the license of his airplane. But, Johnny sez, "This here is a guvvenmint license and you can't take it" and kept right on flying his airplane. So, Johnny plans to taxi his airplanes at Hartford in such a way that he will blow all the dirt on Hartford airport in his friends' windows . . . that is, if he can do it and not cover the regular gang of people who will come out to the airport to see home-town-boy-made-good go through.

Cites Need for Strong AA Council in New York

With this constant changing of personnel at the New York base, it will be more difficult than ever to maintain a strong vigorous council. Yet no point on the system of American Airlines needs the help of a strong council as does New York. There will always be short frequent runs out of New York to meet the demand of the metropolitan center. Because the runs are short and because this base is the training ground of all the new pilots, there will always be a certain amount of confusion as to runs and working hours. Our only hope of bringing order out of such natural handicaps is to maintain close relationship with each other through regular monthly meetings. There are always more satisfactory solutions to certain problems when they are discussed among all the personnel of the council, and it is only through such meetings that we will be able to train all the new members who are now being accepted into the Association.

Scribe Heckles Scribe

So, with this we close our correspondence for ALPA news. Chairman Bill Shannon, this is formal notice that I'm running out on you. After this I'm going to sit on the side lines and heckle Sherman Willard and ask him why he doesn't write better newsletters. So long.

Select 13 Sites For Air Bases

(Continued from Page 1)

and Thirty-third Air Base Group.

Charlotte, N. C.—Fifty-sixth Pursuit Group and the Twenty-ninth Air Base Group.

Atlanta, Ga. — Thirtieth Army Reconnaissance Squadron.

Jackson, Miss. — Thirty-eighth Bombardment Group and Thirty-sixth Air Base Group.

Boise, Idaho—Forty-second Bombardment Group (medium) and Thirty-ninth Air Base Group.

Bowman Field, Ky. — Sixteenth Bombardment Wing Headquarters, the Forty-sixth Bombardment Group (light), and the Twenty-eighth Air Base Group.

Albuquerque, N. M. — Nineteenth Bombardment Group, (heavy) and the Fourth Air Base Group.

Portland, Ore.—Eleventh Pursuit Wing Headquarters, Fifty-fifth Pursuit Group (I) and Forty-third Air Base Group.

Everett, Wash.—Fifty-fourth Pursuit Group and Thirty-fourth Air Base Group.

Yakima, Wash. — Seventeenth Bombardment Group (medium) and Nineteenth Air Base Group.

Sunset Airport, Spokane, Wash.—Northwest Air District Headquarters Squadron, Fifth Bombardment Wing Headquarters, Thirty-ninth Bombardment Group (heavy) and the Forty-second Air Base Group.

Salinas, Calif.—Eighty-second Observation Squadron is to be moved to this new station. Later the Thirty-first Observation Squadron will be formed and have this field as its permanent station.

These plans contemplate the formation of five new bombardment units, three pursuit, one reconnaissance, one observation and eight air base units, and three headquarters.

Did We Do It —or Did We?

By ERNEST A. SPRINGER
Council No. 8, NAL
Jacksonville, Fla.

Here we are again, same wave length . . . but, before I go any further, let me start where I finished last month. Well, the mythical Papa Palmer is no longer a myth. It's a bouncing girl with all parts guaranteed for life. Mother and daughter are doing fine and although Daddy Palmer has gotten much thinner, he also will recover.

A Two-Bladed Mexican Hairless, a Stalin Special, or What Have You

Cookie dusters will come and go but our boys are really versatile. You can see everything from a two-bladed Mexican hairless to a Stalin special among us. Some smart mustache salesman could do a good business here with National. Just to kind of get into the swing of things, I am trying to squeeze one out myself—I wonder if our cuties will like them. One of our ablest growers, Robert ZZZZZZ Peck, just shaved his off on account (he says) this being locust year. But rumor has it that his curiosity and a new-fangled mouse trap (that's supposed to give off an aroma like a big piece of luscious cheese) got tangled up. Result! One less mustachio.

Flies So Close to Lightning That Copilot Scents the Ozone

A slight singeing of the collar was experienced by one of our tall, dark, and handsome Captains (who, by the way, is a very poor tennis player that always wins, fair means or foul) when, in making the statement that he had flown so close to lightning that he could smell the ozone, his copilot (who loves to "huddle") said, "Huh, that's the first time I ever heard it called that."

Our new big hangar being built in Jacksonville is coming along nicely and will be ready to house our new Lodestars when they arrive here. We surely are growing. Every day we have new faces in our midst.

A Chapter About a Belly Landing —It's Dynamic, Colossal, Exciting, Etc., Etc.

The other day, one of our Lockheeds decided to pull a sit-down strike and although everything was pushed down, the gear still remained up. So, a very successful belly landing was executed with very little change, but let the pilots tell about it. . . . "Well, folks, there we were comin' down, gear up. Were we downhearted? Nay. But to work. I shot a quick glance at my able assistant and noted with grim satisfaction his stalwart physique. His chin was thrust forward at a dangerous angle, the determination fairly oozing out of his eyes. He glanced at me, a piercing gleam that almost matched mine, then flexing his bulging muscles (you can still see the impressions on the seat) he returned to his duty. The time was close at hand. Eying the instruments (with the good eye) I literally swept the panel from stem to stern, my photographic mind not missing a flicker. Here it comes—with fingers of cold rolled steel (and knowing it was "only a local condition") I crushed the wheel in my grasp. Did we do it, or did we?" DON'T MISS THE CONCLUDING CHAPTER OF THIS DYNAMIC DRAMATIC MOMENT IN . . . next month's edition at no advance in prices.

Guess I will sign off for this time but I can't help wondering what happened to "Winchell" Babbitt. I surely used to enjoy his lies. Hiya, pal!

U.S., Canada Map Air Plans

(Continued from Page 1)

tion, for without the Canadian permit the service could not be commenced. To make certain that an air carrier authorized by its own government would be given a permit by the other government, the representatives at the conference attempted to formulate a program which would meet the public need for service and, at the same time, insure an equitable distribution of international services and protect the two governments against the creation of excessive financial burdens in the award of mail compensation for the unnecessary maintenance of directly duplicated services.

Recommend Sound Economic Services

The representatives of the aviation authorities of the two countries agreed that they would recommend to the appropriate agencies of their respective governments the steps necessary to the accomplishment of a program which would provide for the maintenance of international services on a sound economic basis. The recommendations contemplate the continued operation by United States carriers of the existing services between New York and Montreal, Boston and Montreal, Fargo and Winnipeg, Seattle and Vancouver, and over the route between Juneau and Fairbanks, Alaska, via Whitehorse, Yukon Territory, connecting at Whitehorse with Canadian services from Edmonton, Calgary, and other points in northwestern Canada. Other services now in operation across the border, for which applications for permits for continued operation are now pending before the Civil Aeronautics Board, are not covered by the agreement but are left to be dealt with at the entire discretion of the United States Government.

Propose Route Between Toronto and New York

In addition, it was agreed that United States air carriers should operate the services between Bangor, Maine, and Moncton, New Brunswick, and between Great Falls, Montana, and Lethbridge, Canada, if such services are authorized by the Civil Aeronautics Board. The conferees also recommended that a United States carrier be permitted to operate between Buffalo and Toronto, connecting with the operations of domestic carriers at Buffalo, and that a Canadian carrier be permitted to operate from Toronto to New York without intermediate stops. In other words, the recommendation is a nonstop service between Toronto and New York by a Canadian carrier and a service by a United States carrier or carriers between New York and Toronto with a stop at Buffalo. Recently, Trans-Canada Airlines inaugurated services between Toronto and Windsor and it was, therefore, recommended that United States carriers be permitted to operate between Windsor and points in the United States, connecting with Trans-Canada at Windsor, and that the Canadian carriers be authorized to extend their services into Detroit to make connections there.

Canada May Aid Pacific Alaska Airways

In addition, the Canadian representatives agreed to recommend that the Canadian Government assist in installing, or permit Pacific Alaska Airways to install, such necessary aids to air navigation, including radio, along the coast of British Columbia as might be desirable in connection with the maintenance of regular schedules between Seattle, Washington, and Juneau, Alaska.

The present unsettled conditions were recognized by those attending the conference. The effective period of the recommendations, should they be approved and given effect by the responsible agencies of the two governments in the sev-

(Continued on Page 8, Col. 3)

SAFETY Pilot leaders and the supervisory personnel of the Air Carrier Inspection Section of the CAA met in Kansas City on October 16, 1940, for a frank discussion on ways and means of duplicating the commendable safety record established during the bad weather months of last winter. The general theme of the meeting was that all concerned should draw the well-known air safety precautionary belt in a few more notches and when in doubt, play safe. It was generally agreed that the only way that safe performance, during the impending bad weather could be assured, was to adhere strictly to the old adage, "Foresight is better than hindsight." No holds were barred, nor punches pulled. The meeting was a success. (L. to r.) R. W. DeLany, Senior Air Carrier Inspector in Charge, Kansas City, Mo.; James E. Read, S. A. C. Insp. in Charge, Burbank, Cal.; A. S. Koch, Acting Dir., Bureau of Safety Regulation, CAA, Wash., D. C.; O. D. Murphy, S. A. C. Insp. in Charge, Chicago, Ill.; Pilot W. H. Proctor, Master Chmn., AA; Pilot A. J. Jaster, Master Chmn., MCA; Pilot James H. Roe, Master Chmn., TWA; David L. Behncke, Pres., ALPA; H. W. Anderson, Chief Air Carrier Inspection Section, CAA, Wash., D. C.; E. B. Franklin, Chief, Operations Unit, CAA, Wash., D. C.; Pilot L. T. Broeren, Master Chmn., UAL; Pilot Ross Knighton, Acting Master Chmn., Braniff; J. B. Jaynes, S. A. C. Insp. in Charge, Ft. Worth, Texas; Byron M. Jacobs, S. A. C. Insp. in Charge, Seattle, Wash., and R. I. Hazen, S. A. C. Insp. in Charge, La Guardia Field, N. Y.

Getting Ready For Class

—International News Photo

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LEARNING TO FLY AND FINALLY SOLOING, NECESSITATES A PECULIAR BASIC COMBINATION OF TOP - BRACKET PHYSICAL AND MENTAL QUALIFICATIONS PLUS A GOODLY SPRINKLE OF NATURAL APTITUDE. SHOWN HERE IS AN EARLY MORNING SCENE AT RANDOLPH FIELD, TEXAS, THE WEST POINT OF THE AIR, WHERE UNCLE SAM IS TRAINING COMBAT PILOTS FOR HIS EVER-EXPANDING AIR FORCES. THE PLANES IN LINE ARE BEING WARMED UP BEFORE THE TAKE-OFF FOR A FLYING LESSON IN THE CLOUDS. IN FOREGROUND, AN INSTRUCTOR AND A CADET AWAIT THE TAKE-OFF SIGNAL. NO MATTER HOW LONG A PILOT HAS BEEN FLYING, THE PRIMARY STAGE INSTRUCTOR'S WORDS, "WELL, BOY, SHE'S ALL YOURS, GO AHEAD" PRIOR TO MAKING A SOLO FLIGHT, ARE ALWAYS A VIVID MEMORY.

★ ★

KC SAFETY MEET SUCCESSFUL

(Continued from Page 1)

informal nature and, literally speaking, everyone present took the bark off and got down to bedrock on ways and means of repeating on the 100 per cent safety record established during the bad-weather months of last winter. In addition, a number of other things were talked about in which the pilots and the inspectors were vitally concerned.

Many Important Subjects on List of Discussions

On the agenda for this meeting, there appeared the following subjects:

Regulations.
Policies on Weather Minimums, etc.
Inspector-Pilot Relations.
Pilot training programs. (New copilots, etc.)
Local Airport Congestion.
Flight Tests.
(a) Standards and procedures.
(b) Delegation to company representatives.
Operations over limited lighted airways and off-range.
Technique of thunderstorm flying.
Preparation for the approaching winter operations with particular reference to the study of the adequacy of various operation programs used by the various air carriers.
Air Line Pilots Association recommendations that all air carrier aircraft be spin tested.
Revision of Parts 40 and 61 with special reference to establishment of standards for operation of express, mail, and pick-up systems.
Copilot training.
Review of Proposed C. A. R. 21.
Flight time limitations.
Dispatchers: Regions of responsibility, maintenance qualifications, etc.
Captain's responsibilities—large boats.
Maintenance of pilot's qualifications.
Air carrier operators' requirements for maintenance of dispatcher and pilot route qualifications relaxed.
(a) Eastern Air Lines suggests that rating qualifications be changed to permit an overlap.
(b) United Air Lines wants route qualifications maintenance changed to permit one one-way trip each twelve months.
Alternate Fields.

Committee Favors Two-Year Minimum Service on Right Side Before Promotion

Several other matters were brought up by the pilot committee near the close of the meeting, the principal of which had to do with the length of time that an air line pilot should serve in the cockpit before being made a first pilot in command of an air line aircraft. It was the general concensus of opinion that two years should be the absolute minimum. It was pointed out that this length of time would carry a pilot through two winter bad-weather seasons which was deemed to be the minimum amount of seasoning necessary for assuming first pilot duty. Everyone present was in agreement on this point and the pilot committee stated that this was the most important single factor that should be carefully watched in order to insure safety this winter and thereafter. It was also made clear that this was not to be considered as the standard time for promotion to first pilotry because more training would certainly be beneficial but that it should be regarded as the minimum time required for promotion, and certainly no one should be placed in charge of air line aircraft who had less than two years' service in the cockpit.

Many Familiar Names On Committees

The air line pilots were represented by the following leaders appointed to the committee by the Central Executive Council: W. H. Proctor, Master Chairman AA; A. J. Jaster, Master Chairman MCA; James H. Roe, Master Chairman TWA; L. T. Broeren, Master Chairman, UAL; Ross Knighton, Acting Master Chairman, Braniff; and David L. Behncke, President ALPA. The Air Carrier Inspection Section of the CAA was represented by the following supervisory personnel, all seasoned veterans in air line inspection work: A. S. Koch, Acting Director, Bureau of Safety Regulation, CAA, Washington, D. C.; H. W. Anderson, Chief Air Carrier Inspection Section, CAA, Washington, D. C.; E. B. Franklin, Chief Operations Unit, CAA, Washington, D. C., and the following Senior Air Carrier Inspectors In Charge: R. W. DeLany, Kansas City, Mo.; James E. Read, Burbank, Cal.; O. D. Murphy, Chicago, Ill.; J. B. Jaynes, Ft. Worth, Texas; Byron M. Jacobs, Seattle, Wash., and R. I. Hazen, La Guardia Field, New York City.

Generally speaking, the meeting was regarded by all participating as an outstanding success. Everyone's remarks were very much to the point and there is no question but that the inspectors learned about many of the pilots' problems and likewise the pilots learned about many of the inspectors' problems.

(See picture in lower right hand corner, page three.)

ALTITUDE AND THE AIRMAN

Sixth installment of the article, "Altitude and the Airman," written by Dr. Ross A. McFarland, and abstracted by Dr. Ralph Greene. Succeeding installments will appear in following issues.

IX. SYMPTOMS REPORTED BY BALLOONISTS AND AVIATORS AT VERY HIGH ALTITUDES.

The introspective reports of the effects of altitude on balloonists and aviators offer interesting evidence which is worthy of consideration. A number of these reports which have emphasized the altered psychological behavior will be briefly reviewed. Although these records may not be fully reliable, it is interesting that laboratory experiments have verified many of the psychological symptoms accompanying anoxemia which were described first by balloonists.

Glaisher Vividly Describes Famous Ascent With Balloonist Coxwell

In 1862 the meteorologist, Glaisher, and the balloonist, Coxwell, made a very famous ascent. Glaisher's account of the symptoms observed is very interesting and valuable. In 48 minutes they reached an altitude of 28,000 feet and after that Glaisher found that he could no longer read his thermometer or watch. His last reading of the barometer was 248 millimeters of mercury, corresponding to about 29,000 feet. He found then that his arms and legs were paralyzed and his neck so much so that he could not hold up his head. He could still vaguely see Coxwell, who was trying to untangle a rope, but when he tried to speak he could not, and then suddenly he became blind. He says, "I was still conscious and my brain as active as in writing these lines." Then suddenly he lost consciousness for about 7 minutes, during which time Coxwell had succeeded in stopping the ascent of the balloon and even in bringing it down a considerable distance. During his return to consciousness he first heard words; then began to see his instruments vaguely, and finally was able to take up his pencil and make observations. This was at 26,000 feet. Coxwell had never lost consciousness, but noticing Glaisher's condition, tried to pull the valve rope. He found that his own arms were paralyzed, and then with great presence of mind got hold of the rope with his teeth. In this manner he opened the valve and caused the descent, thus saving Glaisher's life and his own.

Graphic Account of Symptoms by Survivor of Fatal 30,000 Feet Ascent in 1875.

Another very high ascent was made by three French scientists, in 1875. A graphic account of the symptoms they experienced was recorded by Tissander, the sole survivor of this fatal balloon ascent. In various ascents to about 25,000 feet, and in Bert's steel chamber, they had tested for the effects and had equipped themselves with bags of oxygen. Unfortunately the bags were small; so they decided not to use them until they felt really in need of oxygen. At 24,000 feet Sivel received the consent of his companions to cut loose the bags of sand serving as ballast in order that they might go higher. Tissander at 26,000 feet reported that the condition of torpor which overcame him was extraordinary. "Body and mind became feebler, little by little, gradually and insensibly. There was no suffering. On the contrary one feels an inward joy . . . I soon felt myself so weak that I could not turn my head to look at my companions. My mind was still clear, however, and I watched the aneroid with my eyes fixed on the needle which soon pointed to 28,000 feet. I wished to call out that we were not at 8,000 meters but my tongue was paralyzed. All at once I shut my eyes and fell down powerless and lost all further memory." Tissander's last records were scarcely legible and the repetition of words was very pronounced. In this ascent the balloon continued to rise until a pressure, recorded automatically, of 30,000 feet altitude was reached. When Tissander recovered, one hour and a quarter later, the balloon was descending rapidly at about 20,000 feet and both his companions were dead. It was clear that they did not try to use the oxygen bags which they had prepared until it was too late—until they were so paralyzed they could not raise the tubes to their lips. Doubtless, they were all convinced that they felt all right and were in full possession of their faculties.

Schroeder Relates Testing Experiences During World War

Very high altitudes have also been reached in airplanes. During the World War, R. W. Schroeder made careful records of his altered sensations and judgments in testing planes for high altitude flying. He found that he could not go above 23,000 feet at any time without feeling sleepy, tired, cross, and hungry. During an altitude flight on September 15, 1918, he reported: "When I reached 25,000 feet I noticed the sun growing dim. I could hardly hear my motor run and I got very hungry. The trend of my thought was that it must be getting late for the sun was getting so dim and I went on talking to myself. I then turned on the oxygen and the sun grew bright again, the motor became so loud that I thought something must be wrong with it. I was no longer hungry and I felt like singing from sheer joy." He kept on climbing until his oxygen began to give out at 29,000 feet. The lack of oxygen soon affected him, for he became very cross and the horizon seemed very much out of place. He assumed, however, that he was flying correctly and the horizon was wrong. He then ran out of gasoline and began to descend in a spiral. At 20,000 feet he felt more normal and made a safe landing. Later, Schroeder succeeded in going as high as 36,000 feet, but narrowly escaped a fatal accident through losing consciousness from oxygen want and falling quite a distance. In a number of the altitude flights attempting to establish records, accidents due to altered judgments and even to temporary loss of consciousness have occurred indicating that great care should be taken to ward off such effects.

British Air Men Report Interesting Observations

In reporting experiences in the British Air Service during the War, an author says that an aviator flying at an altitude may not be aware of his altered judgment and may often feel quite confident. Slackness of morale, feebleness of judgment, and general indifference were often noted. Pilots frequently returned home with very foolish reports of their experiences at high altitudes. A number of interesting illustrations are recorded. One observer, returning from high flying reconnaissance, highly pleased with himself, later found that he had taken 18 photographs on the same plate. On another occasion a pilot, on meeting an enemy aircraft at 19,000 feet, in spite of protests from the observer, cheerily waved his hand at them and took no further action. Airmen were frequently unable to find their way home, being able to see the ground but unable to read their maps. Birley and others reported that after an hour at 15,000 feet it took nearly twice as long to sight a target. Muscular deterioration or fatigue lengthened the time of firing and accuracy was decreased. There was increased difficulty in swinging the gun, and even drawing the shutters of the camera was considered very hard work. Seven observers broke off engagements at 14,000 feet on account of difficulty in standing up to the gun, and at 21,000 feet most observers found that it was impossible to stand up at all. It was found to be advantageous to use oxygen even at relatively low altitudes, especially in continuous flying.

Expand Naval Air Reserve Training

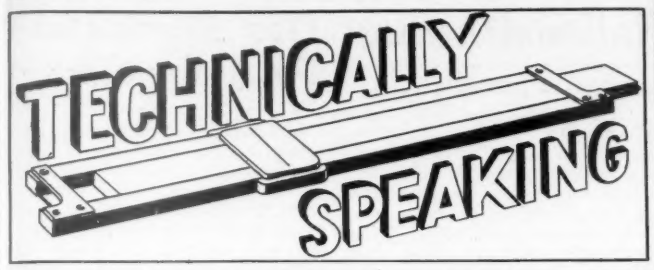
Establishment of three new naval air reserve training centers and expansion of existing bases to handle a maximum of 1,600 men a month is now under way, according to a recent announcement by Secretary of the Navy, Knox.

The new centers are to be established at New Orleans, Dallas, and Atlanta. Existing bases to be expanded are at New York, Philadelphia, Squantum, Mass.; Anacostia, D. C.; Seattle, Oakland, Calif.; Long Beach, Calif.; Grosse Isle near Detroit, Glenview, Ill.; Minneapolis, St. Louis, Kansas City, and Opalocka, Fla.

The Navy has a fund of $10,000,000 to finance this training program. Each of the stations will be equipped for the preliminary training of 100 men. Those who successfully complete the preliminary course will finish their training at the Naval Station at Pensacola, Fla.

—Wide World Photo

IMPRESSIVE **This unusually-thrilling and impressive scene was snapped at Fort Benning, Ga., on Oct. 5, against a background of fleecy-white, lazily-floating clouds. Eighteen sky-doughboys are shown pioneering in the army's first parachute battalion. The exhibition was a farewell gesture to a score of Latin-American military leaders. Major W. M. Miley, battallion commander, directed the maneuver from the ground and received the congratulations of the visiting generals who described the show as "perfect."**



METEOROLOGICAL CONDITIONS ASSOCIATED WITH AIRCRAFT LIGHTNING DISCHARGES AND ATMOSPHERICS

By E. J. Minser, Chief Meteorologist, TWA

Following is an article on aircraft lightning discharges which is reprinted in this column through the courtesy of the JOURNAL OF AERONAUTICAL SCIENCES where it appeared December 1939, and by permission of the National Aeronautics Council, Inc., publishers of AERONAUTICS. The paper was originally presented to the joint meeting, I. Ae. S. and Soaring Society of America, Elmira, New York, July 1, 1939. The second and concluding installment will appear in the next issue.

Abstract

From an analysis of a large number of actual cases, lightning discharges to aircraft in flight are determined to be between two oppositely charged regions in cumulo type clouds and to occur most frequently in the zone adjacent to the freezing isotherm, i.e., from 26° to 34°F. The origin of the electrical charge in cumulo type clouds is explained as resulting from the selective separation of positive and negative ions in the earth's electrical field by cloud and precipitation particles, and final concentration at the freezing isotherm through disruption of rain drops, the charge in the cloud being determined by the cause of disruption. Flight procedure through cumulo type clouds to avoid lightning discharges, is given.

Introduction

With the increase in number of large-all-metal, transport planes flying regular schedules, there has been a consistent increase in the number of lightning discharges encountered by aircraft. In 1935, with the introduction of Douglas DC-2 equipment, the first definite discharges were reported, and since that time this phenomenon has been frequently observed, not only in the United States, but in various other sections of the northern hemisphere.

The first lightning discharges were generally considered as freaks of nature, a "one in a million" event, and the possible hazard was overshadowed by the novelty of the phenomenon. When, however, the frequency of occurrence increased, a definite hazard was recognized, even though structural damage in each case was of a minor degree. Lacking any specific knowledge of this phenomenon, no means of prevention could be readily devised, except a general warning "to keep clear of thunderstorms."

Encounters Not Decreased

This warning, wise as it appeared, did not decrease the number of discharges encountered, for an analysis of case histories soon revealed that the majority of discharges were not being encountered in thunderstorms but occurred in cumulus type clouds that produced showers. As this type of cloud is common in all altitudes within the usual range of altitudes traversed by scheduled operations, the air transport industry was faced with a very grave problem.

During the winter of 1937-38 a detailed analysis of the meteorological conditions, prevailing at the time discharges were encountered, was begun. Until that time most of the research had been conducted by radio engineers, who worked on the premise that the discharges were the result of the airplane triggering a discharge between two cloud masses or, in the opinion of some, the result of a discharge between a cloud mass and the airplane. At the same time efforts were made to protect the radio equipment and other vulnerable parts of the plane and to devise means by which the electric charge could be drained off. Damaged parts of aircraft were shipped to the General Electric Company which offered to make suitable measurements in an effort to determine the nature of the discharges with respect to time duration and current magnitude.

Up to the present time over fifty case histories of discharges reported in the United States have been analyzed in this study. In many of the early cases much valuable data were lacking and, while pilots could recall certain of the conditions that existed, the information was far from being as complete as an investigation of this type demanded. However, about twenty-five accurate and complete case histories are available and it is upon these that this study is based.

Annual and Diurnal Distribution

Early in this study the annual distribution of discharges was plotted, primarily because the date of occurrence was one element that was available in every case. This curve revealed that two definite peaks occurred during the year with a maximum frequency in early spring, with a lesser peak in late fall. Since these peak periods are during the time of least thunderstorm frequency in the United States the early observed fact that discharges infrequently occurred in thunderstorms was borne out.

The diurnal frequency of occurrence revealed a definite peak between 4 and 8 p. m., which time period coincides with the period of maximum convection over the continent.

Altitude

The mean altitude at which discharges were encountered was 10,000 feet with a maximum of 18,000 feet and a minimum of 2,000 feet, with no one level predominant.

Turbulence

In all cases some degree of turbulence was reported. Light turbulence was usually present within the cloud, suddenly increasing to moderate or severe just prior to the discharge.

Precipitation

In every case precipitation was observed prior to and during the discharge. As well as could be determined by the pilots, the precipitation was generally in the form of rain and/or wet snow, rarely dry snow.* When dry snow was observed the precipitation generally changed to wet snow and/or rain at the time of discharge. When snow alone was observed, the discharge appeared to be vertical rather than horizontal.

Cloud Forms

It is difficult for a pilot to determine accurately, while on instruments, the type of cloud in which he is flying. Since no discharge was ever reported except when in a cloud, information necessary to establish the average cloud type could not be determined from the pilots' reports. Ground observers in the vicinity of the discharge generally reported cumulus type clouds as the predominant type, which is supported by the other meteorological data. The analysis of weather maps generally revealed modified polar air as being the prevailing air mass which likewise, because of its inherent instability, also supports this conclusion.

Electrical Phenomena

Electrical phenomena observed by the pilots are typed as aural and visual. This differentiation is necessary since static heard in the radio receivers increases with the intensity of corona discharge which, of course, is invisible in daylight.

Static was in all cases severe. Ordinarily, it was weak until precipitation was encountered, at which time a definite increase in intensity was observed, becoming a steady roar at the time of discharge.

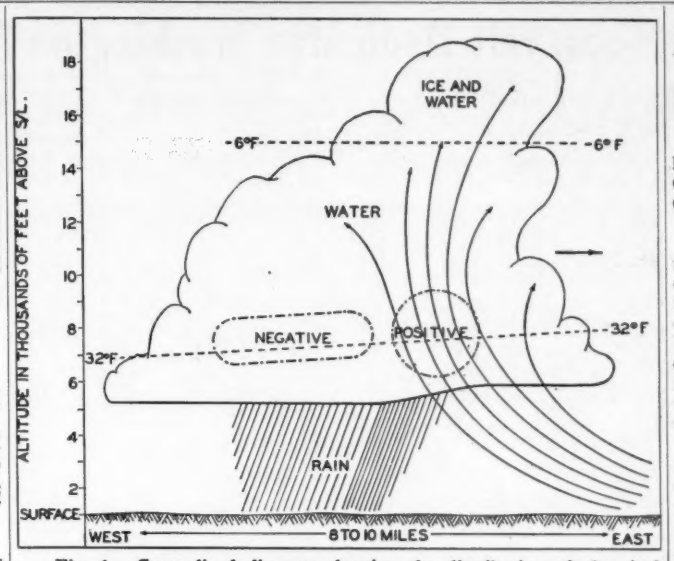


Fig. 1. Generalized diagram showing the distribution of electrical charge, hydrometeors, and air currents in a shower cloud.

With the discharge, the intensity decreased to a degree comparable to that present prior to encountering precipitation.

When the discharge occurred at night a corona discharge was reported in every case. The corona invariably followed a definite time sequence in all cases where observed and the degree of static varied directly as the intensity of the corona.

The corona discharge usually was observed to begin upon encountering precipitation and remain constant for a limited time, being generally restricted to extremities of the airplane having a small radius of curvature such as the nose, propeller tips, and wing tips. This static and/or corona would endure for a period of fifteen to thirty seconds, and end abruptly with the lightning discharge which was usually observed as a vivid flash. Thunder, if heard at all, generally resembled a shotgun discharge.

Temperature

The average temperature existing at flight level is 28°F. In those cases where this element was reliably reported, the extremes were one case each of —5°, 10°, and 40°F. The remaining temperatures fell within the limits of 25° to 34°F. Considering the wide variation of altitudes at which discharges were encountered, the concentration of temperatures to a small spread near freezing is of interest, and it was this fact that motivated a more intense study to determine, if possible, the fundamental causes of lightning discharges.

In the geographical regions where the majority of the lightning discharges were encountered, it was determined from aerological data that the mean elevation of the freezing isotherm was below surface during the winter months and above three kilometers during the summer. Thus, during the spring and fall, the freezing isotherm would lie betwen one and three kilometers. Since the maximum frequency of discharges occurs during these two seasons, the importance of temperature as a factor in the generation of electrical charges in cumulus clouds was recognized.

Physical Results of Discharges

The damage to the structure of the plane and equipment has, in all cases, been of a minor nature and in no instance has it caused the failure of any essential part. Damage has been confined to punctures of the skin or forming frames, burned off trailing antennas, fusing of radio lead-in parts, torn fabric, and damaged tail cones. In every instance the damage was restricted to those parts of the structure having small radii of curvature, but in no one case was the damage of mechanical or aerodynamic importance. The points of ingress and egress of the discharge have always been identified.

For an extended period of time the General Electric Company and other organizations have recorded the intensity of lightning discharges to the earth and have fairly well established the maxima and minima of currents, time duration of discharges, and quantities of electricity involved. A comparison of holes burned in laboratory specimens by a controlled current of known magnitude and duration with the actual damaged aircraft structure, indicates that in certain instances modern all-metal aircraft have withstood safely both high current short time and low current long time discharges as great as those known to have occurred in the General Electric studies.

It is, therefore, believed that modern all-metal aircraft in flight is not endangered by lightning discharges and no hazard exists under such circumstances.

History of a Typical Discharge

The usual sequence of events culminating in a lightning discharge through an airplane is as follows:

Flight is being conducted at an altitude where the temperature is near freezing, on and off instruments in towering cumulus clouds from which occasional showers are observed. On entering an unusually large cloud, light to moderately wet snow or rain is encountered. If the cloud is entered on the forward side where updrafts are most prominent, precipitation is usually in the form of rain and moderate turbulence is experienced. If the rear of the cloud is entered, wet snow is the usual precipitation form.

Shortly after entering the region of precipitation, static increases in the radio and at night a corona discharge (St. Elmo's Fire) is visible on the wings, propeller tips, nose, and other extremities of the airplane's structure. As flight is continued through the cloud, the intensity of the static increases to a steady roar, the corona becomes more vivid, with streamers extending forward into the cloud, and turbulence becomes more pronounced. These conditions continue for ten to twenty seconds, then a flash of lightning occurs, ending abruptly the static and corona, after which turbulence steadily decreases.

Region of Positive Electricity

This sequence of events is interpreted to indicate that the distribution of the electrical charge in a convective type cloud is roughly that shown in Fig. 1. In this diagram, the cloud is shown to be moving eastward with the ascending currents entering the cloud base in the forward portion. In this part of the cloud a region of positive electricity is indicated.

In the rear of the cloud, where precipitation is in the form of wet snow, a region of negative electricity is indicated, with a neutral zone separating the opposite charges.

An airplane in flight through the regions of concentrated charge in the cloud would rapidly assume the charge of its environment and the charge would be gained faster than it would be dissipated except by brush discharge, which produces severe static and corona. On entering the neutral zone, the airplane may, by virtue of its length as a conductor, initiate a discharge between the oppositely charged portions of the cloud.

* Wet snow observed in cumulus clouds under these conditions appeared to consist of a conglomerate of snowflakes and water. Because of their irregular form these particles cannot be classified as soft ice pellets, neither does the term "sleet" truly apply. The "splashing" of these particles on striking the windshield indicates that considerable liquid water is present, and hence the term "wet snow" is used.

5th Columnist! Help! Police!

By FRED WAHL
Council No. 21, IAL
Cheyenne, Wyo.

Dave Behncke has been with us recently, and the first contract conference has been held—nothing to report at this time. Pilot conferees were Captains Harold Wynne, Chairman, Sam Moser, and First Officers Paul Seal and Merritt Gano.

With a Sigh the Guns Were Stowed

"Help! Police! A fifth columnist is out here!" So came a call to police headquarters recently. A police car with four officers, two of whom were highway patrolmen, glided softly up the dark street and spotted a furtive figure on a lawn. "There he is, gang. Surround him and lay low," were the orders to the law. A faint light came on. The suspected fifth columnist looked quickly at something in his hand, checked another gadget, and then flipped off the light. Shortly, the same process was repeated. The law moved in with drawn guns and flashlights with the command, "put 'em up." A very startled young man complied and after a brief pause started talking fast: "I'm Tom Kelso, pilot for Inland Air Lines, and this (pointing to the gadget) is a sextant, which I am using in studying celestial navigation." With a sigh the guns were put up and the balance of the evening was spent with Tom explaining and demonstrating the uses of the sextant to four very interested police officers.

Damages—One Sore Fanny, Arm, and Hand

Ray Johnson, former Inland first officer and ALPA member, resigned in July to accept a position at Laramie, Wyoming, as advanced instructor for CPTP with the University of Wyoming. His first initiation was to try pulling a prop into starting position by hand. At this time the student hit the starter (Haywood). Result: Ray got his fanny spanked in no uncertain terms, and was thrown bodily out to the wing tip. Damages: One sore fanny, arm, and hand. He was hospitalized just long enough to take inventory of nurse personnel.

There's Game and Fish in "Them Thar Hills"

A good many of our readers will recall a very popular fellow, formerly with Rapid Air Lines, named Clyde W. Ice. He was the first pilot to take a Ford trimotor barnstorming and has a record at which we could all shoot for safe flying. You are probably all wondering what became of him. Well, Clyde is station manager for Inland at the picturesque Black Hills Airport near Spearfish, S. D. Here Clyde holds forth in all his glory, coaching us down, instructing future pilots on the side, taking off enough time to get rerated as instructor, and still finding time to hunt and fish in them thar hills.

Hunts Antelope "With a Guy What Can Shoot" This Time

Antelope hunting season is upon us again. Joe Leferink and Tim Collins tried their luck without success. At this writin' Joe is out again "with a guy what can shoot" to quote Tim. Results next time.

First Nonstop Air Mail Pickup

Further revelation that aviation is the modern method of transportation was evidenced recently with the inauguration of America's first nonstop air mail pickup service.

Eighty-one communities in Pennsylvania, New York, West Virginia, and Delaware are being served on three routes radiating from Pittsburgh.

BOGEYMAN GORMAN TAKES HELM

By D. B. KUHN
Council No. 25, TWA
Chicago, Ill.

The nations of the world are crying as of one voice, for airplanes and pilots. We are building battleships. However, there are other activities worth recording here in Chicago.

No Taxation Without Representation

Bud (Bogeyman) Gorman has been duly elected to the chairmanship of the small but potent Council No. 25. This election was necessary in that Bob Springer was made check pilot at Chicago. Chairman Gorman was duly warned there would be "no taxation without representation."

McFerren Learns to Be Stern—Earns Title L. S. B. Meaning Little Sun Beam

Captain P. McFerren returns from Kansas City soon to assume the role of Chicago's chief pilot. He is down there learning to be stern enough to warrant the title of "little S. B." (his own words). S. B. means Sun Beam to you new first officers. We are happy that Mac has been made our chief as the fellows feel they can ride with him without fear of "checkitus." There is an ever increasing number of our membership being elevated to company positions. Soon there will be just a few of us soreheads and apprentice copilots left to carry on. We retain the good will of these inactive members but get no dues. Can't apply good will on convention expenses.

A Thorough and Hard Man Is Captain Roger Don Rae

Captain Roger Don Rae (by right a hard man) has a natural aptitude for golf as well as for flying. His clubs have off days, however, and at times knock the ball askew. Whereupon, Captain Rae proceeds to knock the clubs on the ground, on the trees, and occasionally bends one around a post. This process gradually lightens his load. It is predicted the season's windup will see him shooting the eighteen with a number four iron and a putter. The little Indians have been busy on his scalp which prompted him to buy an electric vibrator for restoration of his locks. The gadget has an eccentric in the head (the machines) that causes the vibration. If in a week or so his hair is growing down to his shoulders, his acquaintances will not be surprised. A thorough and hard man, is he.

Looks like we will not need a pension when the service gives us regular commissions.

Stratoclipper Clips Record

The giant four-motored stratoclipper Rainbow, manned by Captain Robert H. Fatt and Pilots Roy E. Keeler and Charles H. Goodwyn, established a record making air line trip and broke it all in the same day.

The record was made on the initial one-day round-trip flight from Miami to Cristobal, Panama Canal Zone, August 26. The dash to Cristobal, was made in 6 hours and 12 minutes, said by PAA officials to be the fastest time ever recorded between the two cities. This record stood only a short time, however, as the return trip was made in six hours flat. The distance is 1,547 miles.

Inauguration of regular daily round-trip substratosphere flights was slated to begin on or about September 1. Pilots Keeler and Goodwyn will be in charge of the new passenger and air mail service.

Roosevelt Dedicates Washington National Airport

BACKGROUND—

In the February, 1940 issue of the AIR LINE PILOT, the following quoted article appeared:

"The President had a dream and the pilots a headache, and they both decided to do something about it.

"Washington's Gravelly Point Airport is rapidly nearing completion. It will, when finished, be one of the finest airports in the world, rivaled only in size and modernistic facilities by New York City's La Guardia Airport—both truly replicas of the airports of tomorrow. Present estimates are that Gravelly Point will be completed and in use by Labor Day.

"To learn how the move, 'Get-an-airport-fitting-to-the-nation's-capitol' started, it will be necessary to reverse the scrolls of time two years and eight months. The line pilots who had been squeezing their huge planes in and out of the Washington-Hoover Airport for a long time decided to do something about it.

Pilots Decide to Do Something About It

"On July 7, 1937, the pilots sent a letter to the Department of Commerce, Bureau of Air Commerce, which amounted to an ultimatum strongly indicating that they would not land at the Washington-Hoover Airport after a certain date unless definite steps had been taken to improve the Washington civil airport situation generally. This ultimatum from the men in the cockpits burst with resounding echoes in the nation's press. The Washington Times-Herald fought shoulder to shoulder with the pilots.

"Public interest was focused. The fight was on! National interest waxed hot. The question had been put and it demanded an answer—why, with the country rapidly becoming sprinkled with large modern airports, should Washington, the nation's capitol, be longer deprived of an air terminus fitting to its position in national and international significance?

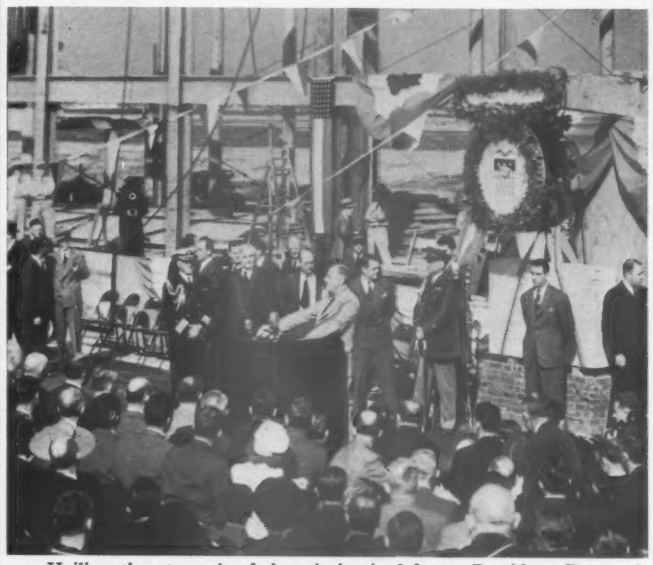
Several Bills Introduced

"Numerous promising airport sites were considered and discarded for one reason or another. Several bills were introduced to improve Washington-Hoover, one of which was lost along the tedious avenues of legislative procedures and another was accreditably killed by presidential veto for the reason that F. D. R. considered the Washington-Hoover site too restricted.

"Scenes shifted rapidly. Many interests were at work. The line pilots' interest was safety. The Camp Springs site located several miles to the southeast of Washington was proposed. Pilots favored this site because it was level and obstruction free. A bill was introduced to make a mile-square airport possible. Real estate intrigues were charged on the floor of Congress during the last hours of the last session of the Seventy-Fifth Congress and the bill was killed.

Fate Takes a Hand

"Dark clouds of defeat for the Washington airport project loomed. Then fate took a hand. One night President Roosevelt dreamed he saw a beautiful silver bird crash, burst into flames, and burn the occupants. Then things happened quickly. And now, Washington has an airport that gives promise of rivaling the finest airports in the world. Thusly, another strangely interesting story ends with the undeniable goddess, Public Opinion, writing the finis."



Hailing the strength of America's air defense, President Roosevelt is shown on the afternoon of Sept. 28, 1940, at the cornerstone-laying ceremonies dedicating Washington's new $12,500,000 National Airport at Gravelly Point. Col. Sumpter Smith is standing immediately to the President's right.

ON NOV. 29, 1938, DREDGES STARTED OPERATIONS TO BUILD THE MADE-LAND ON WHICH THE GREATER PART OF THE NEW WASHINGTON NATIONAL AIRPORT NOW IS LOCATED. ON SEPT. 28, 1940, ONE YEAR, NINE MONTHS, AND 28 DAYS LATER, AT VERY NEAR THE EXACT SPOT WHERE THE FIRST DREDGE BROUGHT UP THE FIRST SOIL FROM BENEATH SOME TEN FEET OF WATER OF THE POTOMAC RIVER, A VERY IMPRESSIVE SCENE WAS ENACTED. FRANKLIN DELANO ROOSEVELT, PRESIDENT OF THE UNITED STATES, TOGETHER WITH A HOST OF AVIATION DIGNITARIES AND IN THE PRESENCE OF A LARGE AUDIENCE, DEDICATED THE GIANT NEW AIRPORT TO THE AIR COMMERCE AND MILITARY DEFENSE OF OUR COUNTRY, THEREBY DEEPLY ETCHING A TRULY GREAT AND TIMELY ACCOMPLISHMENT ON THE SCROLLS OF HISTORIC EVENTS OF OUR COUNTRY.

IT IS EXPECTED THAT THE AIRPORT WILL BE READY FOR FORMAL OPENING AND REGULAR USE BY DEC. 17, 1940.

TWO PERSONS DESERVE OUTSTANDING MENTION FOR THIS REMARKABLE ACCOMPLISHMENT. THEY ARE, PRESIDENT FRANKLIN D. ROOSEVELT AND COL. SUMPTER SMITH, THE FORMER FOR LIFTING THE WASHINGTON AIRPORT SITUATION OUT OF THE APPARENT DILEMMA THAT IT WAS IN SOME TWO YEARS AGO AND STARTING THE PROJECT THAT RESULTED IN TODAY'S ACCOMPLISHMENT, AND THE LATTER FOR HIS TIRELESS EFFORTS IN SUPERVISING THE CONSTRUCTION OF THE PROJECT AND WORKING OUT ALL THE INNUMERABLE ENGINEERING DETAILS INVOLVED.

Air view of the Washington National Airport taken Sept. 27, 1940, the day before President Roosevelt laid the cornerstone of new terminal building during dedication ceremonies. The capitol's port is expected to be in regular use by Dec. 17, 1940. Runways, the longest of which measures one mile and 1,575 feet, provide 40-1 approach in all directions and were laid out after many consultations and test flights with members of the Air Line Pilots Association before work began in the summer of 1938.

* *

Col. Donald H. Connolly, CAA Administrator, watches as Miss Gervais Wallace, daughter of Comdr. and Mrs. W. C. Wallace, draws name of American Airlines from hat, thus giving that line honor of first landing at new Gravelly Point Field. Miss Wallace holds sketch of airport. American Airlines' Flagship "District of Columbia" was the first commercial airplane to land at Washington's new National Airport.

—Courtesy Washington Times-Herald

The text of President Roosevelt's talk at the new Washington National Airport's dedication on Sept. 28, 1940, follows:

First of all, I make this signal to the Army and the Navy that flies:

Well done! The Commander in Chief's compliments and thanks to all hands.

Determination for Defense

The roar above us of American airplane engines in hundreds of American planes is symbolic of our determination to build up a defense on sea, on land, and in the air capable of overcoming any attack. They represent in a small way the power we ultimately must have—and will soon have. Rather let me describe this as just a gratifying flexing of the kind of fighting muscle democracy can and does produce.

They are here upon a peaceful mission. We all hope that their missions will always be in the ways of peace. We shall strive with all of our energies and skills to see to it that they are never called upon for missions of war. But the more of them we have the less likely we are to have to use them—the less likely are we to be attacked from abroad.

Dispute Over Airport

Here, in this broad Potomac valley, George Washington and the other Fathers sought to place the Nation's Capital at a center of the then channels of transportation. There was long dispute about the plan.

So, too, there has been long dispute about the plan for this airport, which will make the Capital again the hub of transportation by air.

A proper and adequate flying field has been a Washington problem since the Wrights had their first crash on the parade ground at Fort Myer 30 years ago. We might go even further back, indeed, and say the problem has existed ever since Dr. Langley tried to fly his "aerodrome" from a barge anchored just below us here in the Potomac.

Work Finally Begun

Two years ago the problem became so acute as, literally, to give me bad dreams. So, upon the passage of the Civil Aeronautics Act, one of the first tasks I asked of the new agency, was the creation

(Continued on Page 7, Col. 3)

Plan Eliminates Dusty Landings

Installation of an automatic sprinkler system is being planned at the Chicago Municipal Airport to insure grass plots between paved runways and thus prevent weeds or dust clouds which would interfere with safe landings of air liners and other ships. This is a part of a fire protection system proposed as a national defense project by Oscar E. Hewitt, Chicago Commissioner of Public Works, in a letter to H. M. McCullen, District Manager of the Works Progress Administration.

The fire protection program calls for the installation of a $418,802 system of hydrants, cisterns, and sprinklers.

Hewitt said the Army, the Illinois National Guard, and eight air lines have hangars at the airport valued at $2,200,000, housing approximately 100 planes. He estimated the value of the plant and equipment at approximately 10 million dollars. The Army has a $300,000 hangar, housing from 12 to 20 planes, and the National Guard hangar is valued at $700,000 and houses 16 planes worth a million dollars, he said.

NEW BOOKS

FACTS—

Of interest to those who were in the Air Service during World War No. I, besides being of some assistance to future students of military aeronautics, is the book, *An Explorer In The Air Service*, by Hiram Bingham.

The author, a former U. S. Senator and an honorary member of the Air Line Pilots Association, is also a widely known explorer of ruined Inca cities and Andean highlands of South America. He began to fly in March 1917, a month before the United States entered the war. At the time of the Armistice, he had risen to Lieutenant-Colonel, U. S. Army Air Service, A.E.F., in command of the Third Aviation Instruction Centre, Issoudun, France, over whose fields two thousand American pilots learned the tactics of aerial combat.

His book of 244 pages, between which are interspersed 46 illustrations, is a record of observations made during those trying, excitable, feverish months of service to his country. The book deals chiefly with aviation training. To many of yesterday's war-time pilots, it may explain the reasons for some of the sufferings which they endured; to many of today's pilots, it may serve as a warning of the evil of unpreparedness.

D. B. Updike, The Merrymount Press, Boston, is the publisher of this book.

DEAD RECKONING—

Early in 1939, a CAA inspector sent two navigation problems to the Weems System of Navigation, Annapolis, Maryland, for solutions. The problems were submitted for solution to seven experts, of whom Mary Tornich's solution proved to be the best. One thousand reprints of her solutions were made and distributed, and this fact proved to be the impetus for the writing of her book, *Radius of Action of Aircraft*.

This book attacks the problems of dead reckoning with which the average pilot is always concerned, in a way that is both logical and easily understood, and in a manner simple and comprehensive in order that the student may master the fundamental essentials. The subject matter is presented in such a clear-cut, uncomplicated fashion that it makes the reader wonder why he ever considered it difficult. To the instructor, this book offers a ready-made method of presenting the material to his students. To the pilot, it is a handbook for aviators who have their eyes on the horizon.

In the appendix of this 164 page text there are to be found excerpts from Civil Air Regulations, a discussion of aeronautical charts, the magnetic compass, compass errors, aircraft computers, and practical problems, and a list of sources of navigation information and equipment.

Printed in large bold type and with excellent illustrative figures, the book is "easy reading."

It is published by the Weems System of Navigation, Annapolis, Maryland, and is priced at $3.00 per copy.

AVIGATION—

In a recent issue of the AIR LINE PILOT, this column had the pleasure of reviewing *Air Navigation* by Lieutenant Commander P. V. H. Weems, U. S. Navy, retired. The text conducted the reader through a very thorough study of "avigation" but being written more for the advanced student or instructor who wished to further his knowledge on this most interesting subject, the size of the book — 536 pages — alone, had the tendency to discourage the beginner or layman.

Due to long flights over the top at high altitudes and to transoceanic scheduled flying, the increasing use of celestial navigation methods has created an urgent need for a simplified text on this subject.

This month, we introduce a new, condensed, and practical text for the beginner—*Simplified Celestial Navigation* by Lieutenant Commander P. V. H. Weems and E. A. Link, Jr. In 92 pages, the authors have attempted to show the thousands of new navigators who, within the next five years, will take up celestial navigation, that it is not black magic.

As the authors so ably state, "There is a general belief that celestial navigation is a complicated subject requiring years to learn; that it involves the use of higher mathematics and that one must be able to name almost any star at a glance. Using modern aids and methods, this is far from being the case. The only mathematics needed are simple addition and subtraction. Learning to identify the few navigational stars necessary, is scarcely more difficult than learning the position of a dozen large cities on the map. If the reader will give it a few hours' trial, he will be convinced that there is no mystery connected with the subject, and will agree that anyone who can read and write, and add two and two, can learn it easily."

In *Simplified Celestial Navigation*, the authors describe the latest in equipment. They carefully avoid needless mathematical theories and methods not actually used by the avigator. The general plan of the book is to state as briefly as possible the essential definitions and principles, and then to clear up difficult points by questions and answers, make free use of illustrations which furnish the required information in a more palatable form than detailed written definitions.

The history of the book has a great deal of human interest in that the idea grew out of a visit to Commander Weems at Annapolis by Ed Link and out of the latter's growing interest in the subject. When Mr. Link returned to Binghamton to his own factory, he had become so saturated with the idea of celestial navigation that he put a good portion of his engineering staff on an advanced celestial navigation trainer costing about fifty thousand dollars. This trainer is now nearly completed and has given remarkable results in practical tests.

The advanced trainer includes not only the use of radio, dead reckoning, and instrument flying, but also combines with these the practical use of celestial objects for determining position. *Simplified Celestial Navigation* will be used as a text in giving instruction on the advanced Link Trainer, as well as to beginners.

This book, published by Weems System of Navigation, Annapolis, Maryland, is priced at $3.00 per copy.

Unfair, Unkind, Uncouth—

(Continued from Page 2)

Underclubbed yourself again, Jim. Anyone knows that an attack upon a full-grown eucalyptus requires at least a four iron.

Chief Holdout Reserve Captain Takes Permanent Spot—O'Hara In Glory Seat

Buster Boln has finally given up his post as chief holdout reserve captain in Burbank and taken a permanent spot in Fort Worth. You may expect to find a new chicken farm springing up in Texas. B. G. O'Hara has moved up to the glory seat and taken over Buster's duties, which accounts for the broad smile B. G. is wearing these days.

Comes the Revolution, Council 31 Should Be Well Supplied With Food

Charlie Maris' many friends will be glad to learn that he has completely recovered from the recent illness which laid him low for six months and is back on his usual spot on the Bu-Eo milk run. Charlie has also switched his interest in boats to the country, weighing in with a hay ranch up in the Antelope Valley. Comes the revolution, Council 31 should be well supplied with food anyway, with John Martin, Pat Patterson, and Maris supplying the ranch products.

Not Big Enough in the Biceps to Dish Out Any Dirty Cracks

Being fresh out of news and not being big enough in the biceps to dish out any dirty cracks, this column nears its end. Maybe by the time the next issue rolls around I can engineer the election of another correspondent.

Dedicates Nat'l Airport

(Continued from Page 6)

of an adequate airport for the Nation's Capital.

That was in August. On November 19, 1938, I watched a dredge bring the first mucky soil from beneath some ten feet of water very near the spot where we now stand. They told me this field would be usable within two years. Today, well within that promise, the field was used.

It will be in regular use within three more months. And Assistant Secretary Hinckley tells me that it will be so extensively used, because of the growth of civil aviation during these two years, that already we must begin to plan other subsidiary airports for Washington as we must do throughout the nation.

Washington's Day Compared

For proof of the value of the growth of aviation to the nation's defense, we can make comparisons with Washington's day. He had a citizenry ready to spring to arms because nearly every citizen had arms and knew how to use them. Every gentleman wore a sword and every farmer had a musket which he used almost daily to bring food to his table.

But two years ago less than 25,000 of our people — only one-fiftieth of 1 per cent of the population—knew how to fly an airplane.

If only that proportion of the American people had known how to use a musket in Washington's day the Continental Army would have consisted of little more than a corporal's guard.

Growth of Air Interest

Today 50,000 young Americans are licensed flyers and the number is growing by almost 2,000 a month. They are not all military pilots—but they are as ready to become military pilots as were the farmers of Washington's day to become riflemen of the line.

Whereas two years ago not more than a quarter of a million of our people used the air lines and private planes to travel in, that number—the number of citizens at least familiar with the airplane—has doubled and will soon be tripled.

That is why an airport like this is important to the national defense. That is why this airport, soon to be one of the world's greatest facilities, surely its most convenient and probably its most beautiful, should be brought with all possible emphasis to the attention of our people during this awakening of America to the needs of national defense.

Peacetime Implement of Commerce

This airport and many others which we hope will follow will draw free men freely to use a peacetime implement of commerce which, we hope, will never be converted to wartime service.

Our newspapers and the radio tell us day after day how increasingly important aircraft has become, both as a weapon in the hands of aggressors and to those who fight for their continued national existence.

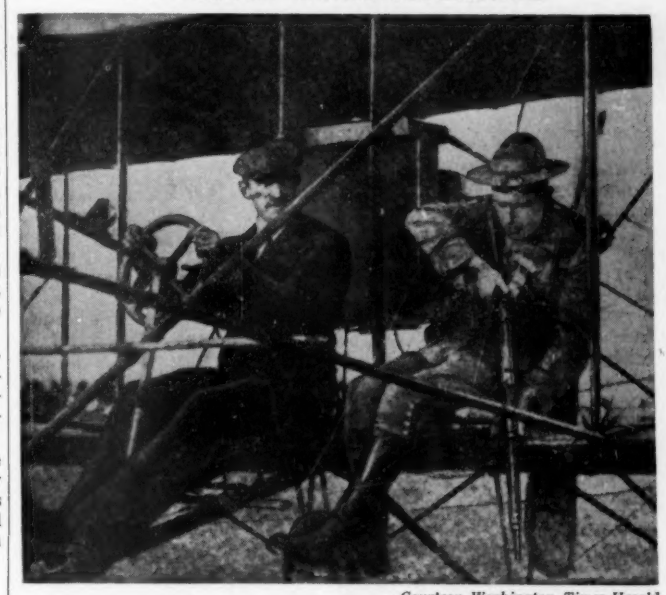
These reports easily explain why these squadrons of the Army and Navy air forces, the thunder of which still rings in our ears, were a prelude to the ceremonies here this afternoon—a prelude to the completion and operation today even of this civilian aviation center—the Washington National Airport.

YOWSAH, MR. BOUNDS, YOWSAH, YOWSAH

"Creation of southern atmosphere," explains George Bounds, C & S advertising director in announcing the selection of a New Orleans agency to handle the air line company's account, "underlies the new appointment. Dixie hospitality at no extra cost is to leave the ground and invade the skies. Our new type of service will be highlighted with such delicacies as southern fried chicken, served with a southern drawl, and with a southern belle at your elbow to charm the time away, while you fly in a luxurious new 21-passenger Douglas plane over our Valley Level Route, etc., etc., etc."

* * *

IT'S ALMOST INCOMPREHENSIBLE



—Courtesy Washington Times-Herald

This rare photograph, considerably retouched because of its age, shows Glenn Curtiss, pioneer aviator and Second Lieut. (now Brig. Gen.) Jacob E. Fickel, Asssitant Chief of the Army Air Corps, in an ancient plane which, at Sheepshead Bay, New York, in 1910, was the vehicle for the experiment which now finds an echo in the roar of gigantic bombing operations and the crackling of multiple machine-gun equipment fighters traveling at speeds of five miles a minute in many parts of the world. Fickel is firing at a target on the ground below, the first shot fired from a moving plane. Recently, at the War Department, Brig. Gen. Fickel gave credit to a colonel in the Signal Corps for originating the idea of arming an airplane for military use. "At the time, no one knew what planes could be used for," he said. "After that first demonstration, interest was aroused, and the War Department detailed me to go up to Boston to continue the experiment. There I tested different kinds of guns. I was then sent to the Remington Arms Works to devise a special sight for use on rifles. After several more experiments, the Army turned to use of machine guns, although these were not perfected until the World War. Why, in the early days of the war, French and German pilots only waved to one another as they passed in the skies."

* * *

TEMPORARILY CRIPPLED

"Sandy" was returning home from a neighborhood grog joint where he had been imbibing a bit too freely. A friend observing him walking down the street in an unorthodox manner, with one foot on the sidewalk and one in the gutter, remarked: "Sandy, why don't you either walk on the sidewalk or in the street?" "And what am I doing?" replied Sandy. Upon being informed, he heaved a big sigh of relief saying, "Hoot, mon! Thank ye for setting me right. I thought I was crippled."

—Thanks to Dr. Ralph Greene.

* * *

IT'S NICE WORK IF YOU CAN GET IT

Curious onlookers lined the fence one day recently at the Chicago Municipal Airport waiting for the next giant of the air to taxi up with its load of passengers. Motors whirred loudly as the pilot spun the huge tail around. Suddenly all was still. The porters moved the unloading ramp into position. Perhaps there is a film celebrity or some other notable about to disembark, thought the thrill seekers. The door opened and out stepped a lone passenger followed by the trim and neat stewardess. The story goes that a California contractor, who prefers to travel alone, chartered the air liner for a trip from Pueblo, Colo. to Washington, D. C. The cost: $2,000.

* * *

SLIGHT ERROR

SCENE: One inky black night, northbound from Casper, Wyoming. "Blank, Inland, Flight Two, over Sussex, 9000, etc." Captain Doe to First Officer Blank: "Why in h—— did you report over Sussex?" First Officer: "Well . . er ahem, we were over. You see—rumpf, rumpf—er, er, the green beacon was just over, ahem, the wing tip." "Green beacon? Don't you know the green navigation light from a beacon yet?"

—Thanks to Fred Wahl.

* * *

PICKABACK IN MID-AIR

Many strange tales of valor have been recorded in the recent annals of modern aerial fighting. Here's one for the book. Pilot L. F. Fuller, advanced student of the Royal Australian Air force, crashed a bomber into a second ship in practice maneuvers near Wagga, Australia, recently, with his plane resting atop the other. While the three remaining pilots bailed out, Fuller stayed with his plane and spiraled both interlocked planes safely to the earth, using his own controls. His engine was deeply imbedded in the engine housing of the second ship and it was this grip, according to veteran airmen, which gave the dual airplane single control.

* * *

THE PLAIN TRUTH

If there is something about your organization you don't like, the sensible thing to do is to come out to the meetings and try to get it corrected. An organization is as good, or as bad, as its members make it.

—Thanks to V. A. Peterson, Chairman EAL.

PAN AM. v. EXPORT

For twelve years, Pan American Airways, Inc., has had a U. S. monopoly on intercontinental air transportation. Its huge Sikorskys, Boeings, Martins and Douglases have flashed through skies clear of competition, except for three or four weaker foreign-owned airlines. An aerial trail blazer, Pan Am has nosed southward into South America; westward to Hawaii, China, Australia, New Zealand; eastward to Europe. With few rivals, Pan Am could take its time pathfinding, make sure its explorations would pay. It has made money since 1931, $1,984,000 last year.

But in 1937 a competitor heaved in sight. American Export Lines, Inc. (steamships) announced it would start transatlantic air service this year. Pan Am vigorously fought the idea. One afternoon last July, Export officials dashed through the halls of their buff-colored downtown Manhattan offices joyfully shouting "We got

—Newspictures

TACA'S YEREX
"We never hauled THAT?"

it!" "It" was an O.K. from the Civil Aeronautics Board to fly the Atlantic (Time, July 29). But, while Export groomed its lone twin-engined Consolidated flying boat for mail and express flights to Europe, Pan Am worked feverishly to keep it on the ground.

Last week, Export bigwigs were dizzy from the worst blow in four years of air line planning. A Senate subcommittee turned down a $500,000 air-mail appropriation to finance their preliminary transatlantic flights. On general principles the State, War, and Navy Departments were all behind Export in the Capitol corridors. (The Navy has stood aside to let Export have its three big warlike Sikorskys in the spring.) That was little consolation. Export must await another deficiency appropriation (probably until next year) before trying again. For the turn-down of what looked like a sure thing, committeemen gave no official explanation, Pan Am was as silent as a catful of canaries.

Ironically, the blow fell while Export was staging a victory dance on another front. It had invaded Pan Am's semi-private preserve—Latin America—by buying a phenomenally successful line called TACA (Transportes Aereos Centro Americanos). To the superstitious natives of Central America, TACA is a byword with a touch of magic. Many of them who have never seen an automobile cheerfully clamber into a TACA transport, grin across the aisle at U. S. or English businessmen heading to or from Pan Am's main stem.

TACA is the creation of 45-year-old, stocky, square-jawed Lowell Yerex, New Zealand flier in World War I. After the war, Yerex spent ten years barnstorming and selling automobiles in the U. S., then drifted south to Honduras with $25 and an old Stinson monoplane, went into business. His business: to haul anything anyplace in Central America a plane could land. He also managed to keep on the right side of the volatile Central American Governments, even did air fighting for Honduras against revolutionists. One day while he was strafing native troops, a rifle bullet smacked his head, put out an eye. A crack pilot, he banked his plane for home, made the field before collapsing. Now he has a glass eye.

Today TACA spreads in a series of fans over British Honduras, Honduras, Guatemala, Salvador, Nicaragua, Costa Rica, and Panama. It makes scheduled stops at 125 of its 235 airports (mostly carved out of dense jungles); operates 40 radio stations; employs 700 men, mostly natives. Equipment includes 22 tri-motored Fords ("Tin Geese" all bought second-hand), six new Lockheed 14s, three twin-motored Curtiss Condors, 21 light planes. TACA's airplane repair shop at Tegucigalpa is the biggest between the U. S. and Panama.

TACA is also the world's No. 1 carrier of air freight, from which it gets 60% of its revenues. When he buys a plane, Yerex rips out the plush seats, toilet, stewardess' quarters, puts in metal flooring, side-walls, removable seats instead. The "Tin Geese" have huge hatches in the roofs or large double doors in the sides. Outside aviators stand agape at the way TACA planes are loaded with no apparent regard for weight, then sluggishly take off over some of the toughest flying terrain in the world. No. 1 source of freight revenue is machinery and supplies, mostly for gold mines. In December 1938, Canadian-controlled La Luz Mines began work on an 800-ton-a-day mine at Siuna, Nicaragua. TACA first flew in three Caterpillar tractors, followed them with bulldozers, graders, two "ball mills" (weighing 110,000 pounds assembled), a 2,300-h.p. Diesel plant. When shown the complete mine building, even the blasé Yerex exclaimed, "We never hauled THAT?" No. 2 freight item is grey puttylike chicle, base of chewing gum. From the chicle-producing jungles of Guatemala to the coast is one to two weeks by mule train, 40 minutes by TACA. Other freight includes refrigerators, bedsprings, oil, bananas, cattle, chickens.

Yerex also bolstered his revenues with passengers and mail. He always made money; profits rose every year. Last year TACA grossed $1,079,000, netted $216,000. This year Yerex hoped to clear $250,000. But the state of the world worried him. Several months ago he considered selling out to Americans, thus getting under Uncle Sam's protecting wing. Last week (subject to CAB approval) the deal was closed for a reported $2,000,000-plus. Besides cash and American Export stock, Yerex got the job of managing TACA for its new owners. American Export, its more ambitious plans confined to paper by Pan Am and the vagaries of Congress, got a going air line; a chance to practice for later competition with Pan Am.

—Courtesy TIME, The Weekly Newsmagazine, October 14, 1940.

U.S., Canada Map Air Plans

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eral cases in which they would be involved, was limited to December 31, 1942, before which time a further conference should be held for the purpose of considering further developments, and agreeing on future policies.

List Conferees

The American representatives at the conference were Edward Warner, Vice-Chairman, and George P. Baker, another member of the Civil Aeronautics Board, and Samuel E. Gates, the Board's International Counsel. The Honorable J. Pierrepont Moffat, American Minister to Canada, attended the sessions of the conference as an observer.

The Canadian Government was represented by The Honorable C. D. Howe, Minister of Munitions and Supply; Colonel V. L. Smart, Deputy Minister of Transport; Commander C. P. Edwards, Chief of Air Services; J. A. Wilson, Controller of Civil Aviation, and P. T. Coolican, Deputy Assistant Postmaster General of Canada.

—Wide World Photo

VETERAN Captain W. A. Avery (right), who was one of the first men in America to fly a heavier-than-air craft, sees latest in aviation while given a demonstration of modern air transportation methods when he went aloft in a United Air Lines Mainliner with Capt. S. R. Richards, who explained radio operation and other aids used in 1940 flying.

—Wide World Photo

STALLED American planes stalled on their way to war. Planes purchased in this country for the Allies before the cessation of hostilities between France and the Axis, are shown stranded on the island of Martinique in the French West Indies. The planes had been taken aboard the French aircraft carrier Bearn when news came that France had capitulated. The ship took the planes to Martinique where they were unloaded and where they now remain. It is reported that efforts are being made to return them to this country where, no doubt, they could be put to good use in the gigantic pilot training program now in progress.

Appoint Stanton Assistant Admr.

Donald H. Connolly, Administrator of Civil Aeronautics, Department of Commerce, has announced selection of his Assistant Administrator and of an Administrative Consultant in the field of management.

The new Assistant Administrator of Civil Aeronautics is Charles I. Stanton, veteran civil aviation official in government, who for more than twelve years has been a key executive of the Federal Airways System.

New administrative consultant to Colonel Connolly is Arlin E. Stockburger, California public administration executive, who, until his resignation last week, was deputy mayor of Los Angeles.

A World War Flyer

Mr. Stanton is 47, a native of Massachusetts, a graduate of Tufts College, and a civil engineer. A World War flyer, he has been associated with governmental agencies dealing with civil aviation since the day after his discharge from the Army on December 17, 1918.

First he was a test pilot for the air mail service of the Postoffice Department, then division superintendent, superintendent of supplies and repairs, and superintendent of operations. During this period in the infancy of civil aviation, he participated in the first installations of such pioneering ventures as all-weather runways and rotating beacons.

One of First Inspectors

After an interval of four years in the engineering business, he returned to the Aeronautics Branch of the Department of Commerce as one of its first airplane and engine inspectors, but was transferred almost immediately to the Airways Division. Throughout the twelve years since, he has played a major role in the development of today's 28,000-mile network of Federal airways.

His promotion will extend his jurisdiction to include nearly all of the technical services for civil aviation performed by the CAA.

Stockburger, a Mechanical Engineer

Mr. Stockburger is 52, a native of Arkansas, and a mechanical engineer who specialized in gas engines. A signal corps lieutenant during the World War, he helped to work out the first telephonic communication between an airplane and the ground. After the war, he managed ranch and oil properties in Arkansas and Oklahoma, and served as Mayor of Siloam Springs, Arkansas.

Moving to California in 1924, he became successively, city manager of South Pasadena, Alhambra, and Ventura. He was Director of Finance, State of California, from 1934 until early in 1939, when his connection with the City of Los Angeles began.

LATE NEWS

(Continued from Page 1)

aircraft division of the National Defense Advisory Commission, is announced by William S. Knudsen, chief of the commission. Mr. Meigs, who has been a pilot for 13 years, will assume his post in Washington on Nov. 1.

$141,320,610.37

"Similar in design to the combat models now being delivered in quantities to Britain but vastly superior in performance and defensive power, are the airplanes to be constructed under this contract," commented Douglas Aircraft's president, Donald W. Douglas, upon being awarded a $141,320,610.37 government contract, completing this important company's allotment in the vast U. S. re-armament program. "The airplanes ordered today will create 15,000 to 18,000 additional jobs in California and lead to additional employment of many thousands elsewhere."

Corrigan

Experimenting with a more substantial airplane than his "flying crate" of 1938 fame in which he hopped to Ireland, Douglas ("Wrong Way") Corrigan disclosed plans for a $25,000 aircraft factory to be located at suburban Compton, Calif. It is reported his plane will be of all-metal, low-wing design.

Named

Reminiscent of the early American trail-blazing days across the plains over which today majestic air liners fly, Northwest Airlines, a pioneer in its own field, has recently named its three daily westbound transcontinental flights as, "The Frontiersman," "The Ranger," and "The Vigilante." Its daily eastbound transcontinentals out of Seattle and Portland bear the names of "The Sunlighter," "The Twilighter," and "The Starlighter."

Standardization

Late autumn will see the beginning of new activities around the Grand Central Airport at St. Petersburg, Fla., which the CAA has leased on a dollar-a-year basis for the establishment of a standardization center for inspectors. Details of the services to be provided at the center are now being completed.